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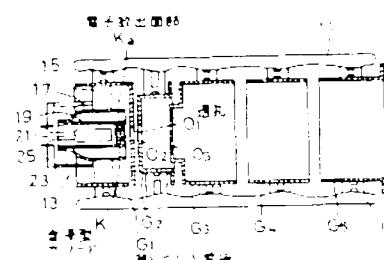
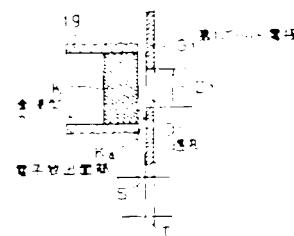
APPLICATION DATE : 21-12-85
 APPLICATION NUMBER : 61-125517

APPLICANT : SONY CORP.

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TITLE : ELECTRON GUN STRUCTURE



ABSTRACT : PURPOSE: To stably obtain an electron beam with high current density and enable changes in the cut-off voltage occurring with the passing of time to be reduced by adjusting the diameter of the electron-beam-admitting hole of the first grid electrode, the thickness of the plate section of the first grid electrode and the distance between the electron-emitting surface and the plate section of the first grid electrode according to a specific formula.

DESCRIPTION: An electron gun structure has an impregnated cathode (K) and a grid electrode group including a first grid electrode (G₁) which has an electron-beam-admitting hole (O₁) and a plate section facing the electron-emitting surface of the impregnated cathode (K). The diameter (D₁) of the hole (O₁) in the plate section of the first grid electrode (G₁), the thickness (T₁) of the active plate section and the distance (S₁) between the electron-emitting surface of the impregnated cathode (K) and the plate section of the first grid electrode (G₁) are adjusted according to the formula

$$0.865 \cdot D_1 + 4.793^2 - 2.0 \leq S_1 \leq 0.065 \cdot D_1 + 4.793^2 + 2.0$$
As a result, changes in the cathode cut-off voltage of the electron gun structure occurring with the passing of time are restricted to, for example, 5% or less.

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